prepare an implementation strategy

Overview

n this step, the planning team will prepare a strategy for implementing the mitigation actions decided upon in Step 2. The implementation strategy identifies who is responsible for which actions, what funding mechanisms (e.g., grant funds, capital budget, or in-kind donations) and other resources are available or will be pursued, and when the actions are to be completed. It describes the way the community will use its resources to achieve its goals of reducing losses from future hazard events. It also focuses on coordination between the various individuals and agencies involved in the implementation to avoid duplicating or conflicting efforts. Bringing the Plan to Life: Implementing the Hazard Mitigation Plan (FEMA 386-4) provides more information on implementing the hazard mitigation strategy.

Procedures & Techniques

Task A. Identify how the mitigation actions will be implemented.

In this task, the planning team will identify the responsible party or parties, funding resources, and a time frame for implementing the actions selected in Step 2. Table 3-1: Preparing an Implementation Strategy, on the following page, summarizes the subtasks involved and the process for obtaining the end results to include in the implementation strategy. The planning team should apply this process to all of the selected actions.

1. Identify parties, define responsibilities, and confirm partners.

The capability assessment will be very helpful in completing this subtask. The planning team should review the list of agencies and organizations identified in the assessment and how they function so that the team can match the appropriate department or agency with the actions called for in the implementation strategy. For example, if your community decided that enacting a more stringent floodplain ordinance is a top priority, and you know that the



Now that projects have been identified, this is a good time to examine partnerships and search for organizations

that could contribute or support the implementation process. (See *Getting Started*, FEMA 386-1, for information on building partnerships.)

Funding Your Actions

Some actions, such as developing policies or initiating

public information activities, will require little or no new funds to implement, as these may be integrated into the dayto-day operations of appropriate agencies. Other actions, such as building houses for low-income residents through Habitat for Humanity, may rely on donated time or materials from local individuals, organizations, or businesses. Many of the actions, such as structural retrofits of critical facilities, may involve identifying new sources of funding or programming the expenses into the next capital improvement budget. The planning team may designate one member or create a subcommittee to be responsible for identifying sources of financial and technical assistance.

Version 1.0 April 2003

Table 3-1: Preparing an Implementation Strategy

Task A 1		Task A 2		Task A 3
Identify parties and define responsibilities	Confirm partners (technical or financial)	Identify resources (local, state, and federal governments; foundations; business partners; non-profits) to implement the action	List materials needed (equipment, supplies, and vehicles)	Define the time frame for implementing the actions
Process	Process	Process	Process	Process
Define the roles of the lead and support agencies and/or organizations (work with the community manager and agency heads to determine lead and support agencies)	Contact technical and financial partners necessary for implementation	Prepare a budget and consult various resources to identify funding and technical assistance	Develop a list of all materials necessary for implementation	Discuss the time frame for carrying out each action
Result	Result	Result	Result	Result
Identification of lead and support agencies and organizations, and a listing of their roles and responsibilities	Confirmed commitments from agencies and organizations that will perform specific tasks	Development of a budget, broken out by task, to implement the action and a listing of funding and technical assistance sources	A listing of necessary materials that are available and those that must be purchased to implement the action	An agreed upon time frame for carrying out the actions

Adapted from Integrated Hazard Assessment for the Island of Puerto Rico, Final Report, 2002

Environmental Protection Department is listed as administering this ordinance, then you would list this department as the lead agency.

It is also important to review the capability assessment findings to better understand the administrative process necessary to see an action through to completion. For example, after the Environmental Protection Department prepares an amendment to the floodplain ordinance to make it more effective, the city council would be requested to review and adopt the regulations, triggering a public hearing and possibly a public comment period before the council can vote on the amendment. Knowing the process will assist the planning team in developing a more realistic time frame to accomplish the action.

This is a good time for team members to contact or meet with the community manager and lead and support agency heads who will play a role in implementing the actions. This will provide an opportunity to confirm their commitment and cooperation. This is also a good time for these partners to provide input on the steps necessary to carry out the actions, allowing the planning team to fine-

tune the proposed schedules. Department or agency heads should make sure the person(s) responsible for each task under each action has the time and ability to follow through; otherwise, implementation may be delayed.

2. Identify resources to implement the actions.

Resources include funding, technical assistance, and materials. The team should prepare a preliminary cost estimate or budget, broken out by task, for each of the actions. Knowing the cost will help the planning team target a variety of sources to fund the action. The planning team should also prepare a list of materials (equipment, vehicles, and supplies) that would be required to effectively implement the action. Oftentimes, these items are overlooked. When preparing the list, note which items you have and which you would need to purchase and include these costs in the budget. Additionally, long-term maintenance may be required for projects such as acquisitions. Be certain to factor the necessary maintenance funding into cost estimates and assign responsibility for the maintenance to the proper party. The team will probably need to seek help in preparing these budgets. To back up these estimates, the team should work with the agency or organization that will be responsible for the action.

The planning team should look at the state and local capability assessments to identify resources to implement the identified mitigation actions. The team should examine resources from all levels of government, private sector organizations, and universities to explore all possible sources of assistance. More information on resources is presented in *Securing Resources for Mitigation Planning* (FEMA 386-9).

- a. Local and state governments are granted the authority under their police power to protect the health, safety, and welfare of citizens. This includes enacting and enforcing building codes and zoning ordinances, and developing public education programs to alert residents to risks and how they can reduce hazard losses. If the local government is the party responsible for enacting one or more of the mitigation actions, it will need to earmark resources for implementing these actions. A primary funding source for state and local emergency management activities is the Emergency Management Performance Grant. This annual grant is provided by FEMA.
- b. **Sources of local revenue** often used to fund emergency management activities include general taxes, property taxes, exac-

tions, connection fees, impact fees (usually paid by private developers), and special assessment districts. An example of a special fee is a stormwater management fee used to maintain streams, culverts, and other flood control systems. In some cases, local governments use the proceeds to acquire structures in the floodplain.

The planning team should take appropriate action to ensure that funding for mitigation projects is incorporated into state or local budgets. These include:

- Capital improvement budgets can incorporate mitigation costs into capital improvement project budgets (e.g., including costs to retrofit a municipal building to current seismic or high wind standards). A key goal of the mitigation planning process is for mitigation to be considered in all capital improvement projects vulnerable to hazards or located within hazard areas.
- Operating budgets of specific departments such as public works, planning, building, or environment can include costs for consultants, supplies, and salaries to complete mitigation actions.
- **Special funds** can be established to deal with post-disaster funding needs. Many states have initiated "rainy day funds" to help provide the local match required for most federal grant programs.
- Staff time can be very cost-beneficial to use in hazard mitigation projects. Most planning, policy, and regulatory actions require only staff time and political commitment. Staff time can be used as an in-kind match to most federal grants. In a post-disaster setting, employees can coordinate projects and volunteers, assist in the clean-up effort, or help with other activities that can reduce losses and business interruption. It is critical to obtain city or county manager support for mitigation early on in order to have departments commit to significant staff time.

Year-end money may become available toward the end of the municipal, state, or federal fiscal year. To capitalize on this situation, the planning team should:

• Make priority projects known to the appropriate local, state, or federal agencies. Regional or district offices of federal



agencies are usually responsible for maintaining an understanding of local needs. If state and federal representatives have been included in the planning process all along, your jurisdiction may be well positioned to hear about these opportunities and successfully apply for funding.

- Assign a team member to **track information** on new federal, state, and regional grant programs.
- Examine how a project could be broken into parts or phases that could be quickly completed when funding becomes available.

In addition to funding, the planning team should keep in mind that states have experts available to assist local jurisdictions. Many of these experts were probably consulted when the team profiled the hazards during Phase 2 of the planning process. Most states have one or more of the following staff and/or technical capabilities:

- State Hazard Mitigation Officer
- State Geologist
- State Floodplain Manager
- State Climatologist
- State Forester
- Geographic Information System Specialist
- c. The federal government is a good source of many grant programs and technical assistance for mitigation. In addition to FEMA, which is the lead federal agency in providing pre-and post disaster mitigation assistance to states, tribes, and communities, several other key departments or agencies are involved in mitigation assistance. These include the U.S. Department of Agriculture for watershed planning, the Department of Housing and Urban Development and its Community Development Block Grant program (CDBG), and the Small Business Administration with pre- and post-disaster loans. Keep in mind, however, that most FEMA funding is distributed by states to the local level. Having an approved mitigation plan in place is required in most cases to receive these federal funds. The library in Appendix B contains more information on federal resources. Following is a sampling of relevant Web sites:



Relevant Web Sites

Army Corps of Engineers	http://www.usace.army.mil/	
Department of Agriculture	http://www.usda.gov/da/disaster/nda.htm	
Dept of Agriculture, Natural Resources Conservation Service	http://www.nrcs.usda.gov/RID/RID.html	
Department of Housing and Urban Development	http://www.hud.gov/offices/cpd/communitydevelopment/programs/dri/driquickfacts.cfm	
Department of Transportation	http://www.fhwa.dot.gov/programadmin/erelief.html	
FEMA Flood Mitigation Assistance Program	http://www.fema.gov/fima/mtap/shtm	
FEMA Hazard Mitigation Grant Program	http://www.fema.gov/fima/hmgp/	
FEMA Individual Assistance Program	http://www.fema.gov/rrr/inassist.shtm	
FEMA National Dam Safety Program	http://www.fema.gov/fima/damsafe	
FEMA National Earthquake Program	http://www.fema.gov//hazards/earthquakes/	
FEMA National Flood Insurance Program	http://www.fema.gov/nfip	
FEMA National Hurricane Program	http://www.fema.gov/hazards/hurricanes/	
FEMA Pre-Disaster Mitigation Program	http://www.fema.gov/fima/pdm.shtm	
FEMA Public Assistance Program	http://www.fema.gov/rrr/pa	
Small Business Administration	http://www.sba.gov/disaster	

Home- or businessowners carrying flood insurance auto-

matically have Increased Cost of Compliance (ICC) coverage. ICC provides benefits for bringing buildings up to code if they have been substantially damaged. This is important information to have when costs for retrofitting structures after a flood are estimated.

Benefits of the Hazard Mitigation Plan

After November 1, 2004, only communities, tribes, and states with a FEMA-approved mitigation plan will become eligible to receive mitigation funds following a presidentially declared disaster. Having an approved plan in place will be required in order to receive HMGP funds. Furthermore, after November 1, 2003, plans will be required in order to receive funding for "brick and mortar" projects under FEMA's Pre-Disaster Mitigation Program.

d. **Private sector organizations and businesses** have a lot to gain by engaging in activities to reduce risks in the community. Businesses and other private interests may be willing to contribute time, labor, materials, space, and other support as part of their commitment to community improvement.

The planning team should also consider securing private grant funds that are available for environmental and natural resource protection, and for sustainable community development and redevelopment. The link between hazard mitigation and sustainability may not be as clear to some private funding sources and they may not list mitigation goals in their requests for proposals. In this case, the planning team may decide to submit a grant application to fund that portion of the project that most closely matches the sustainability grant requirements. See *Planning for a Sustainable Future* (FEMA 364) for more information on the links between sustainability and mitigation.

e. **Academic Institutions** can provide valuable resources in the form of technical expertise and low-cost staff (students), meeting facilities, the latest data related to your state or community, and training resources for planning and related tools such as HAZUS.

Private Sector Funding at Work

Tulsa Child Care Center Retrofit, Tulsa County, Oklahoma

In June 2000, the City of Tulsa, its insurance committee led by State

Farm Insurance, and Sunglow, Inc. conducted a Tulsa area childcare center retrofit, a non-structural approach to making buildings stronger during storms and tornadoes. Crosstown Learning Center, located in the Second Presbyterian Church in Tulsa, was retrofitted by covering all windows with impact-resistant film to prevent shattering during tornadoes (the labor was supplied by Sunglow, Inc. and protective film by Madico); two vending machines were anchored to the wall; and plastic sleeves were added to fluorescent light bulbs to prevent injuries from shattered bulbs. The City of Tulsa also helped the childcare center obtain a programmable weather radio to warn caregivers of severe storms approaching Tulsa County and assisted in the designation of the basement as a safe place during emergencies.

Miami-Dade County Residential Shuttering Program, Miami-Dade County, Florida

The Miami-Dade County Residential Shuttering Program offers free hurricane shutters and installation to elderly low-income residents who qualify for the program. Applications are entered into a database maintained by the American Red Cross Miami and the Keys Chapter, with assistance from Friend, Inc., a coalition of local religious organizations. Eligible applicants are then placed into a lottery and chosen randomly. The program's goal is to shutter approximately 1,300 homes in eligible areas.

If residents cannot put up the shutters themselves, they can apply for this assistance from Friend, Inc. and the Miami-Dade County Community Emergency Response Team (CERT).

"FireFree! Get In the Zone" Program, Deschutes County, Oregon

In an effort to address wildfire danger in the Bend, Oregon, area, four local agencies and a Fortune 500 corporation joined together in 1997 to create "FireFree! Get in the Zone," a public education campaign designed to reduce the risk of damage by wildfires in Deschutes County and beyond. The campaign aims to educate the public about wildfire safety and promote behaviors and attitudes that translate into creating defensible space around homes and businesses. Initiated by SAFECO Corporation, the partnership originally included the Bend Fire Department, Deschutes County Fire Agencies, City of Bend Development Services, and The Deschutes National Forest. The Oregon Department of Forestry, Deschutes County, and a number of local government organizations and private businesses joined the program shortly thereafter. The campaign uses a combination of mass media advertising, public relations efforts, and educational materials, and engages in cooperative programs with other local organizations.

IBM Global Crisis Response Team Preparedness Assessments for Businesses, City of Sparks, Nevada

In 2000, on-site preparedness assessments were conducted on more than 40 businesses through a partnership between the City of Sparks, Nevada, and disaster specialists from the IBM Global Crisis Response Team. Business owners were given a Disaster Readiness Questionnaire to help them take notes for making improvements, correcting exposures, or implementing recommendations made during the on-site walk-through portion of the assessment. The evaluations covered mitigation issues, such as non-structural earthquake bracing, storage practices, utility shut-offs, data storage backups, the impact of business interruptions, and how to obtain and properly use sandbags to protect against flooding. The on-site business reviews provided practical recommendations on how to protect businesses from the adverse effects of disasters, such as floods, earthquakes, and fires, and provided tips on how to minimize downtime after a disaster. Businesses were also given information on the National Flood Insurance Program, what to do in the event of a disaster, and a suggested list of on-hand supplies to include in their Corporate Office Survival Kits.

For projects or activities with longer time frames, it would be advantageous to estab-

lish milestones or benchmarks, so that incremental progress can be monitored and interim successes documented.



Example Implementation Strategy Format

Action: (From your list of selected actions)

Goal(s) and Objective(s) Addressed: (Sometimes the action will address more than one goal and objective)

Lead Agency: (Provide the name and a brief description of the agency)

Support Agency or Agencies: (Provide the name and a brief description of each support agency)

Budget: (Provide the dollar amount or an estimate, if known; put TBD—to be determined, if not known; and/or indicate staff time if staff will be used)

Funding Source(s): (List the funding sources—e.g., operating budget, capital improvement budget, XYZ grant, XYZ foundation, etc.)

Start and End Date: (Indicate start and end dates; short-term, long-term, or ongoing; and milestones for longer term projects)

3. Define the time frame for implementing the actions.

The planning team and responsible agencies should develop a specific time frame for implementing each mitigation action that your community has decided to pursue. Determining the time frame with staff members from the departments or agencies that are responsible for the mitigation action will greatly enhance the chance of your mitigation plan succeeding. The time frame should detail when the action will be started, when interim steps will be completed, and when the action should be fully implemented.

When identifying start dates, keep in mind any special scheduling needs, such as seasonal climate conditions, funding cycles, agency work plans, and budgets. Funding cycles will affect when you can begin implementing an action.

After you have identified the start dates, you may want to review the priority you initially gave to the actions to ensure that you address the issues in that order, whenever possible. If the order of priorities has changed, the planning team should make sure to document the reasons why. Once implementation begins, the planning team should periodically revisit the plan and actions to make sure they fit the changing needs of your community. These issues are discussed in more detail in *Bringing the Plan to Life* (FEMA 386-4).

Task B. Document the implementation strategy.

After completing the process summarized in Table 3-1 for each action, you are now ready to document your results. Determine the format for presenting your implementation strategy. This, along with discussions of goals and objectives, and identification and prioritization of actions, will comprise your overall mitigation strategy.

There are many ways to present the implementation strategy. A format that the planning team can use is listed in the adjacent sidebar. If an action is currently being implemented, indicate it as ongoing under the time frame and indicate an end date, when applicable. Be sure to indicate long-term maintenance activities as ongoing. If you choose short-term and long-term time frames, make sure you define, at the beginning of the implementation strategy, the time period you consider to be short and long term (e.g., short-term actions are usually considered to be those that can be accomplished within one year of plan adoption).



Planning for Post-Disaster Recovery and Reconstruction

Although no community wants to be faced with the daunting task of disaster recovery, the fact remains that many disasters are followed by the largest infusion of federal and state development capital that most communities will ever see at one time. Communities that have paid careful attention to hazard mitigation actions that could be implemented in that "Window of Opportunity" following a disaster, can quickly articulate their needs to state and federal officials. Time is a compelling factor in determining local recovery decisions and outcomes. By addressing these issues before a disaster strikes, communities can rally around a recovery strategy that considers long-term sustainable development objectives rather than rebuilding back to pre-disaster conditions. These communities will have a competitive edge when post-disaster funding and technical assistance become available.

Communities are encouraged to incorporate a post-disaster recovery component into the overall implementation strategy by addressing a set of priorities and policies that will help guide the recovery and reconstruction process. At a minimum, communities should consider a set of hazard mitigation actions that may not be economically or politically feasible in the near term but may become a realistic opportunity following a disaster event. These "on the shelf" mitigation actions could be evaluated against the actual disaster damages and, if appropriate, incorporated into a recovery strategy following a disaster event. Some communities, such as Hilton Head, South Carolina, are expanding this concept by developing a pre-event plan and establishing a recovery organization. This is an emerging area of disaster management practice that crosses over into city planning, redevelopment, and urban design. The recovery organization builds upon the existing framework of local government and often includes a Recovery Task Force with representation from the public and private sectors. The pre-event plan describes the policies, plans, implementation actions, and designated responsibilities related to a rapid and orderly post-disaster recovery process that would be activated following a natural disaster. The recovery organization differs from immediate emergency response functions in that they extend over a much longer period of time, involve a broader range of local land development powers, and operate in a parallel fashion to traditional emergency response activities.

Adopting a recovery and reconstruction ordinance may not be an appropriate course of action for many communities, particularly those located in less hazard-prone regions of the nation. However, considering policies that would efficiently and wisely guide post-disaster reconstruction in the implementation strategy would be a wise investment of resources for any community developing a hazard mitigation plan. The FEMA booklet *Planning for a Sustainable Future* (Publication 364) and the FEMA/APA *Planning for Post-Disaster Recovery and Reconstruction* (FEMA 421) provide additional information on this topic. Both publications can be ordered through the FEMA publications warehouse at 1-800-480-2520.

Task C. Obtain the consensus of the planning team.

The planning team should review the resulting strategy and come to a consensus on the timing of the mitigation actions and on the agencies or other parties responsible. When the team confirms that the timeline and use of resources are realistic, and the appropriate agencies or individuals are designated the appropriate responsibilities, it confirms that the strategy is headed in the right direction.

Before finalizing the strategy, the team should take another look at all of the mitigation actions to ensure that the projects, taken together, reflect the goals, objectives, and priorities of the community and the team. It would also ensure that the timelines of the actions show project completions spanning from a short time after plan adoption through longer time frames. A consensus on the implementation strategy, followed by the adoption of the plan, has the essential ingredients of a functional plan that can truly help a community mitigate its losses from hazards.

Summary

The implementation strategy you completed in this step will serve as the roadmap for making your state, tribe, or community more disaster resistant. The strategy clearly lays out who will be responsible for undertaking the identified actions, what funding sources are available, and the time frame for completing these actions. You and the planning team now have all the essential elements for your plan and are ready to complete Step 4: Document the Mitigation Planning Process.

The Hazardville Post

Vol. CXII No. 332

Thursday, November 28, 2002

The Implementation Strategy

(Part 3 of a 4-Part Series on the Mitigation Strategy Process)

[Hazardville, EM] Planning Department Director Joe Norris, lead planner of the Town of Hazardville Organization for Risk Reduction (THORR), reported that the implementation strategy for the first draft of the Hazardville Hazard Mitigation Plan was complete and available for public review. Council Members, Town Department Heads, and community members have 30 days to submit their comments to Norris. THORR developed the implementation strategy with the help of all of the Town of Hazardville Department Heads. At the direction of the Town Manager, each Department Head has agreed to allow a portion of staff time to be used to help secure funding and eventually monitor the mitigation actions. Below is an excerpt of the implementation strategy. A complete copy of the draft plan is available at the Hazardville Library.

The State Office of Planning and the Office of Emergency Prepared-

ness helped THORR by providing guidance on coordinating the planning process and providing feedback on the development of mitigation strategies. The state also provided THORR with information on the types of mitigation projects likely to receive outside funding and how to look for existing sources of funding not typically used for hazard mitigation or emergency management activities. THORR found that the Hazardville Housing Acquisition Fund, normally used to purchase and demolish substandard housing, could be used for purchasing floodprone houses. The relationship was beneficial to both parties—THORR received invaluable feedback and assistance, and the state helped one of its local communities protect itself from hazards.

When asked about the next step for Hazardville, Norris replied, "Now that the draft implementation strategy is complete, we have identified where our biggest losses would be and have agreed on what we should do about them. It is time to roll up our sleeves, get to work, and put our money where our mouth is. We still have a very important document to write, which will show how we developed this plan and the process we went through to help protect Hazardville from future hazards."

THORR completed the Hazardville Risk Assessment last November and has applied for grants to undertake its most important mitigation project, the purchase and demolition of houses in the floodplain. "Mitigation is the only hope for Hazardville to remain a viable, sustainable community long into the future. I am dedicated to ensuring that Hazardville and its citizens are safe from the effects of future hazards," vowed Mayor McDonald.

Action: Acquire and demolish five houses identified as repetitive loss structures located in the floodplain. **Goal(s) and Objective(s) Addressed:**

Goal 1: Minimize losses to existing and future structures within hazard areas. Objective 1.1: Reduce damages to the manufactured home park in the floodplain.

Lead Agency: Department of Planning: Responsible for land-use planning, permitting, and economic development.

Support Agency: Department of Housing: Responsible for increasing and improving the housing stock, managing the Section 8 Program, and demolishing dilapidated or unsafe residential structures.

Budget: \$30,000 per house

Funding Source(s): Hazardville Housing Acquisition Fund (yearly appropriation and grants)

Start and End Date: July 2003 - August 2006

